

November 20, 2024

UE-220848

VIA ELECTRONIC FILING

Received
Records Management
Nov 20, 2024

Jeff Killip
Executive Director and Secretary
Washington Utilities and Transportation Commission
621 Woodland Square Loop SE
Lacey, WA 98503

RE: DO NOT REDOCKET—Docket UE-220848—PacifiCorp’s Wattsmart Battery Demand Response Program under Schedule 106

PacifiCorp d/b/a Pacific Power & Light Company (PacifiCorp) proposes the enclosed battery demand response program under Tariff Schedule 106—Demand Response. The Company requests a January 1, 2025 effective date.

Accompanying this filing are Confidential Exhibits A and B, which include confidential information and is provided to the Commission in accordance with WAC 480-07-160. Confidential Exhibits A and B include valuable commercial information, including confidential information and analysis related to the battery demand response program. Disclosure of such information would harm PacifiCorp by providing an unfair disadvantage.

Purpose

On August 26, 2022, PacifiCorp’s Schedule 106—Demand Response Programs went into effect, enabling a broad scope of demand response programs in Washington. As discussed in the process outlined in the Company’s Clean Energy Implementation Plan¹ (CEIP) and Docket UE-220550, the Company proposes the following:

- Introduce a battery storage demand response program under the provisions of Schedule 106.
- Position battery storage demand response program costs for recovery through Schedule 191.

PacifiCorp will recover costs through Schedule 191 consistent with recovery of costs for other approved demand response programs. PacifiCorp will include details about the battery storage demand response program in its biennial CEIP updates. As outlined at the end of this filing, PacifiCorp has shared program details with the appropriate advisory groups and sought feedback before implementing the new battery program.

¹ PacifiCorp 2021 Clean Energy Implementation Plan, Chapter 3.

I. Demand Response is a Resource in the Clean Energy Implementation Plan

The filing is part of the continuing implementation of resources outlined in the Clean Energy Implementation Plan as part of the Company's compliance with the Washington Clean Energy Transportation Act (CETA). Demand response needs for Washington were further clarified in the Company's Clean Energy Implementation Plan (CEIP)² where 37.4 MW of demand response were targeted through 2025.

II. Using the provisions of Schedule 106 to add a Demand Response Program

As outlined in Docket UE-220550, Schedule 106 is intended to enable multiple demand response programs. Each new demand response program will be filed with the Commission and will include the information found on the website, cost effectiveness, the proposed evaluation and reporting schedule, and other details that may be required to support an approval request.

As outlined in Docket UE-220550, the Company expects to review each program delivered under Schedule 106 annually for performance and the need for any changes. The Company will generally consider changes to its programs annually, though a program that is performing well may not require annual changes. Conversely, the Company may propose changes more frequently than annually if there is compelling market data. To initiate a change using this process, the Company will follow the process outlined in Docket UE-220550, presenting information to the DSM Advisory Group (and consult with the Equity Advisory Group), and seek comments prior to making changes. The Company will respond to stakeholder's comments, including reasoning, and any proposed resolution to issues raised and provide back to the stakeholders. The Company will clearly post the notice of change(s) to the program website with at least 45 days advance notice. The change process anticipated for programs administered under this Schedule is similar to the process utilized by the Company for energy efficiency programs.

Based on stakeholder conversation during review and approval of the irrigation filing referenced above, the Company will not use the proposed change process to make changes to Schedule 106, remove or add pilots/programs to Schedule 106, as those substantive changes will require filing for approval.

The approval requested herein follows the directive provided in Order 01 in Docket UE-220848.

III. Wattsmart Battery Program

PacifiCorp proposes to establish a battery demand response program (Wattsmart Battery or Program) for its Washington customers under Schedule 106, as described in the following sections A through H.

² Available online https://www.pacificorp.com/content/dam/pcorp/documents/en/pacificorp/energy/ceip/PAC-CEIP-12-30-21_with_Appx.pdf. See pp 22-23 for demand response target and calculations.

A. Program Overview

The Wattsmart Battery Program will promote and incentivize the installation of individual batteries for system-wide integration which will facilitate grid management. The Company's 2023 Integrated Resource Plan includes nearly 600 megawatts ("MW") of demand response capacity, including battery storage, across the system by 2028. Establishing Wattsmart Battery will ensure that battery equipment installed by customers behind the meter is integrated safely into the Company's systems and will provide benefits for both the customer and the grid. Leveraging the batteries from the Wattsmart Battery Program will create opportunity in the following areas:

- **Utility Grid Management** – The Wattsmart Battery Program will enable the Company to utilize qualified batteries for utility grid management 24 hours per day/365 days per year, providing year-round value to effectively manage the electric grid. The batteries may be utilized for traditional demand response, frequency reserve, contingency reserve, regulation reserves, regional grid management, backup power and other ancillary benefits in addition to reducing peak load on the electric system. Initial parameters used to dispatch the batteries for grid management are identified in the Dispatch Period section below. As the Program matures, dispatch parameters may change for continual improvement. Initially, batteries will be used to off-set customers' load, but as the Program evolves and matures, the Company intends to add other capabilities, such as allowing customers to charge batteries during the day with excess solar and export the solar energy during peak times, to maximize benefits for all parties.
- **Load Shaping** – The Company will help customers optimize batteries in coordination with daily peak and off-peak periods. For example, a customer with solar will charge the battery with any excess generation during the middle of the day, and in turn will utilize the battery to offset energy use during peak periods. Partnering with customers with batteries to manage excess solar during the day and peak periods in the evenings will provide the greatest benefits for customers and the utility grid.
- **Utility Integration of Behind-the-Meter Batteries** – The battery storage industry is still in its infancy, and there is a lack of standards for utility grid integration from both a safety and operational perspective. This program will help provide battery manufacturers guidance on how to qualify to participate in a utility grid-optimized battery solution.

B. Customer Participation and Eligibility

The Wattsmart Battery Program will be available to all retail tariff customers taking service under the Company's electric service schedules listed on Schedule 191 – System Benefits Charge. Both residential and commercial customers may participate; however, the Company anticipates that initially, participation will come from residential customers with solar.

Customers may participate by installing eligible battery equipment and allowing the Company to utilize the battery for grid management. Customers will be compensated for enrolling through an enrollment incentive and an annual bill credit. Customers will be required to commit to the Program for a minimum of four (4) years to receive an enrollment incentive. After the commitment term, customers will have the opportunity to receive an annual incentive for their

continued participation beyond the initial commitment term. The commitment term may change depending on Program needs.

Participating customers will also be required to provide information including their name, business (if applicable), installation address, and contact information to assist with eligibility and installation verification activities prior to enrolling. If a participating customer chooses to end their participation during their initial commitment period, the Company may require the participating customer to return their enrollment incentive on a pro-rated basis.

Batteries must meet program participation requirements to qualify for an incentive, including the integration into the Company's Distributed Battery Grid Management Solution ("DBGMS"). Battery manufacturers who have a product capable of meeting the requirements for utility-controlled demand response and who are willing to work with the Company and its partners to integrate into the DBGMS can qualify their batteries for participation in the Wattsmart Battery Program.

C. Incentive Structure

Wattsmart Battery incentives will be available to customers with installed batteries capable of communicating with the Company's DBGMS. An up-front enrollment payment incentive will be offered to customers who commit to the minimum term with a newly purchased battery. The minimum term will initially be set at four years but may change as the Program evolves. Program participants will also receive an annual bill credit incentive for their continued participation.

Customers with pre-existing eligible batteries may also participate in the Program but will not be required to commit to a minimum term. Instead, due to free ridership concerns, customers with existing eligible batteries may start off at the increased annual bill credit incentive for as long as they remain enrolled.

Customers will receive their enrollment incentive as a direct payment once eligibility and installation have been verified. Annual participation incentives will be given as monthly bill credits. Table 1 provides the incentive levels for Program enrollment and annual participation incentives.

Table 1 – Wattsmart Battery Incentives

Load Management Program	Participating Equipment	Maximum Incentive (“up to”)		
		Enrollment Incentive ³	Annual Participation Incentive During Commitment Term ⁴	Annual Participation Incentive ⁵
Wattsmart Battery	Residential Batteries	\$150/kW x Annual Commitment Term	\$15/kW	\$50/kW
	Commercial Batteries	\$150/kw x Annual Commitment Term	\$15/kW	\$50/kW
	Custom	Custom		

Enrollment incentives will be based on the kW capacity of the enrolled battery, multiplied by the commitment term. For example, if a residential customer enrolls a 5kW battery with a commitment term of 4 years, their enrollment incentive will be \$3,000 (5kW x \$150 x 4 years). During the commitment period for years 2 to 4, the program participation annual incentive would be \$75 (5kW x \$15). If the same customer continues to participate beyond the 4-year commitment term, their annual participation incentive could be up to \$250 (5kW x \$50). If a customer opts out of participating after their commitment term, their annual participation incentive will be pro-rated.

At the Company’s discretion, custom incentives and commitment terms may be considered for customers with custom battery projects or large capacity batteries. The Company will evaluate incentive levels and program requirements periodically and may adjust them through the appropriate process based upon various factors, such as battery market changes, federal and state incentive levels, participation numbers and cost-effectiveness.

As an alternative solution for customers who want batteries, but do not have the funds to cover the associated equipment and installation costs, the Company may provide a lease type agreement option, where the Company will work with qualified trade-allies to install and maintain the batteries.

D. Projected Program Costs and Participation Rates

The Wattsmart Battery Program is forecast to achieve approximately 9 MW of battery demand response in Washington by 2030. The majority of expenditures in the initial years of the program are anticipated to be customer enrollment incentives. Table 2 provides a breakdown of estimated

³ Enrollment incentives will be capped at 70% of battery equipment costs and available for new battery purchases only.

⁴ Participation incentives are eligible to be applied toward monthly energy charges. Customers will remain responsible for fixed charges.

⁵ Applicable to new batteries after the commitment term or existing batteries where the enrollment incentive and commitment term is not applicable. Participation Incentives are eligible to be applied towards monthly energy charges. Customers remain responsible for fixed charges.

program costs by category for 2025 through 2027. Table 3 provides a 6-year outlook of projected participation.

Table 2 – Estimated Program Costs by Category

Cost Category	2025	2026	2027
Start-up Costs	\$50,000		
Program Administration	\$15,000	\$20,000	\$25,000
Software Costs	\$15,000	\$30,000	\$50,000
Marketing	\$5,000	\$5,000	\$5,000
Total Incentives	\$150,000	\$303,750	\$411,250
Total Program Costs	\$235,000	\$358,750	\$491,250

Table 3 – Estimated 6-Year Program Participation

Year	Estimated Incremental Battery Participation	Estimated kW - Cumulative
2025	50	250
2026	100	750
2027	200	1750
2028	200	2750
2029	500	5250
2030	750	9000

E. Quality Assurance, Eligible Equipment and Dispatch Period

For the Company to communicate with installed battery equipment, participating customers must have a reliable internet connection and Wi-Fi network and any other related equipment or system elements on the premises that may be required by the Company or equipment manufacturer. Battery manufacturers will be eligible to participate in the Program as long as they are willing to allow their batteries to be integrated into the Company’s DBGMS and meet equipment eligibility. To justify the incentives being provided and to maintain cost effectiveness, the batteries must be able to provide daily load cycling, frequency response, and parameters identified below.

At the outset of the Wattsmart Battery program, eligible equipment may consist of the following:

- Ability to integrate in the DBGMS
- Utility grade batteries with a minimum of 4 kW / 10 kWh
- Minimum of 10-year battery life (warranty)
- Minimum of 7,500 battery cycle life to accommodate for daily load cycling
- Ability to charge/discharge multiple times a day
- Full dispatch control by PacifiCorp to meet the needs of the program
- Proper UL or equivalent safety certifications for residential and commercial applications

As technology evolves and new products become available, it is anticipated more batteries will become eligible. The Company will maintain an updated list of eligible batteries and other requirements for participation on the Wattsmart Battery program website.

The Company shall have the right to dispatch the Wattsmart Battery system based on the following criteria:

- Daily load cycling for peak management
- Utilized for traditional demand response, frequency reserve, contingency reserve, regulation reserves, regional grid management, backup power and other ancillary needs.
- Dispatch Days: Monday through Sunday, including holidays, year-round.
- Dispatch Duration: Dispatches may be held multiple times per day up to two full duty cycles of the battery

At the outset of the Wattsmart Battery Program, batteries will be dispatched to off-set customers' load, as discussed in the Load Shaping paragraph above. As the Program evolves and matures, the Company intends to add capability to the timing of dispatch, such as charging batteries during the day with excess solar and exporting the solar energy during peak times, to maximize benefits for all parties.

The Company may dispatch batteries to the system as necessary without advanced notice. The Company will not drain batteries below 10 percent capacity to ensure customers retain a minimum level for emergency backup. The DBGMS and integration into the Company's Energy Management System makes this possible to manage. Additionally, Wattsmart Battery dispatch events will be managed to minimize use of the battery system during or prior to an event that is expected to cause system outages.

In the event of a local outage, the battery will be used as backup power for the customer. While there are many factors that influence customer load, including battery size, house size, solar array, time of year, etc., it is estimated that 10 percent capacity will provide 1-8 hours of emergency backup power for an average customer. The Company will continually evaluate this percentage and update, if necessary, to ensure the batteries are available when needed for customers.

F. Annual Reporting

PacifiCorp will provide an annual report for the Wattsmart Battery program following the full first year of program operation and annually thereafter. Annual reporting may provide a summary of program activities, costs, and accomplishments, future changes under consideration and feedback received. Annual reporting for demand response programs for the prior year will be included as an attachment to the clean energy progress and compliance reports due July 1 of each year. Drafts of the demand response report will be provided to the DSM Advisory Group at least 30 days ahead of the July filing.

G. Cost Effectiveness

The cost effectiveness analysis for the Wattsmart Battery program and an overview memo are attached hereto as Confidential Exhibits A and B, respectively, based on the maximum "up to" incentive levels. As avoided costs are considered proprietary on load control programs, the cost effectiveness results are provided below with a "pass" designation, which equates to a benefit to cost ratio of 1.0 or better. Due to the nature of demand response, and consistent with the cost effectiveness methodology for other demand response programs, the Participant Cost Test is not

applicable. The Wattsmart Battery program is expected to be cost effective under all other scenarios.

Table 4 – Wattsmart Battery Program Level Cost Effectiveness Results

Benefit/Cost Test	Benefit/Cost Ratio
PacifiCorp Total Resource Cost Test (PTRC) + Conservation Adder	Pass
Total Resource Cost Test (TRC) No Adder	Pass
Utility Cost Test (UTC)	Pass
Rate Impact Test (RIM)	Pass
Participant Cost Test (PCT)	N/A

H. Stakeholder Involvement

On January 21, 2020, PacifiCorp held a CPA workshop meeting in the 2021 IRP public input process. Highlights included review prior IRP/CPA comments, proposed CPA methodologies for demand response, interactions between demand response and pricing/rates options.

On February 18, 2020, PacifiCorp held a technical workshop in the 2021 IRP public input process. Highlights included further defining the grid services a demand response resource can provide and IRP credits for demand response.

On April 14, 2020, PacifiCorp held a stakeholder meeting interested in demand response. Highlights included background information on existing demand response programs, review of demand response in 2019 IRP, review of demand response potential in the conservation potential assessment, discuss pilot concepts and gather input on how to structure or focus a demand response RFP.

On April 16, 2020, at its regular IRP public input meeting, PacifiCorp shared information on the demand response stakeholder meeting with the broader IRP audience.

On June 18 & 19, 2020, PacifiCorp held an IRP public input meeting, which included 2019 IRP Action Item 4 acknowledgement with demand response conditions and draft RFP schedule shared with broader IRP audience.

On August 28, 2020, PacifiCorp held an IRP CPA Technical Workshop. Highlights included an assessment of demand response resources, assessment methodology, transition to grid services view of demand response, development of demand response costs, draft potential results (short and long duration, winter and summer) and a demand response RFP update.

On October 22, 2020, PacifiCorp held an IRP public input meeting. Highlights included demand response ramp rates, battery storage assumptions, types of demand response costs used in the levelized calculation, demand response cost bundles.

On October 22, 2020, PacifiCorp held an IRP Public input meeting. Highlights included demand response ramp rates, battery storage assumptions, types of demand response costs used in the levelized calculation, demand response cost bundles.

On August 27, 2021, PacifiCorp held an IRP public input meeting highlighting the 2021 preferred portfolio action plan with demand side management actions.

On October 19, 2021, PacifiCorp held a technical workshop on proposed CEIP utility actions to meet CETA requirements, specifically highlighting demand response actions, including commercial and industrial load control, that the Company intended to undertake as part of the CEIP.

On October 20, 2021, PacifiCorp met the Equity Advisory Group (EAG) on proposed CEIP utility actions, specifically highlighting demand response actions, including commercial and industrial load control, that the Company intended to undertake as part of the CEIP.

On November 10, 2021, PacifiCorp held a technical workshop on the draft CEIP and discussed prospective capacity volumes and costs associated with demand response actions identified in the CEIP.

On November 15, 2021, PacifiCorp met with the demand response advisory council staff lead from the Northwest Power and Conservation Council and discussed the California Demand Response Protocol utilized by PacifiCorp for evaluating their programs. Discussion focused on similarities between the council' approach and the protocol and how costs and benefits were included in the total resource cost test calculations.

On November 17, 2021, PacifiCorp met with the EAG providing further detail on draft demand response actions included in the CEIP.

On April 13, 2022, the Company presented the draft program requirements, participation parameters for discussion and requested specific feedback from the EAG regarding program marketing and partnership strategies.

On April 28, 2022, the Company presented both draft irrigation program information and general information on cost effectiveness, reporting and cost recovery for demand response to the Washington DSM Advisory Group.

On June 15, 2022, the Company presented information on non-energy impacts of demand response to the Equity Advisory Group and requested feedback on potential NEIs to monetize and apply to demand response for the 2023 CPA.

On September 8, 2022, during a DSM Advisory Group meeting, the Company presented information on demand response potential for all sectors including residential that will be included in the 2023 Conservation Potential Assessment.

Details specific to the Wattsmart Battery Program were first introduced to Washington DSM and Equity Advisory Group members at the joint DSM/Equity Advisory Group meeting on

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September 12, 2024. A summary of the Program design and incentives were provided to those in attendance and posted online following the meeting.⁶

The Program was also presented at the CEIP Engagement meeting held on October 29, 2024. A summary of the Program design and incentives were provided to those in attendance.

Sincerely,

 /s/

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Enclosures

220848-PAC-COS-11-20-24.pdf

220848-PAC-Pet-Amnd-Acct-11-20-24.pdf

220848-PAC-Exh-A-11-20-24 (C).xlsx

220848-PAC-Exh-B-11-20-24 (C).pdf

220848-PAC-Exh-C-11-20-24.pdf

220848-PAC-Exh-Placeholder-11-20-24 (R).pdf

⁶ Slides are available at

https://www.pacificorp.com/content/dam/pcorp/documents/en/pacificorp/energy/ceip/EAG_Meeting_2024-09_September_2024_Slides_fnl.pdf